

学 位 論 文 の 要 旨

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主論文の題名

Single systemic administration of Ag85B of mycobacteria DNA inhibits allergic airway inflammation in a mouse model of asthma

主論文の要旨

The immune responses of T-helper (Th) and T regulatory (Treg) cells are thought to play a crucial role in the pathogenesis of allergic airway inflammation observed in asthma. The correction of immune response by these cells should be considered in prevention and treatment of asthma. Native antigen 85B (Ag85B) of mycobacteria, which cross-reacts among mycobacteria species, may play an important biological role in host-pathogen interaction since it elicits various immune responses by activation of Th cells. In the present study, we investigated the anti-allergic inflammatory effects of DNA administration of Ag85B from *Mycobacterium kansasii* in a mouse model of asthma. Immunization of BALB/c mice with alum-adsorbed ovalbumin (OVA) followed by aspiration with aerosolized OVA resulted in the development of allergic airway inflammation. Administration of Ag85B DNA before aerosolized OVA challenge protected the mice from subsequent induction of allergic airway inflammation. Serum and bronchoalveolar lavage IgE levels, extent of eosinophil infiltration and levels of Th2-type cytokines in Ag85B DNA-administered mice were significantly lower than those in control plasmid-immunized mice, and levels of Th1- and Treg-type cytokines were enhanced by Ag85B administration. The results of this study provide evidence for the potential utility of Ag85B DNA inoculation as a novel approach for treatment of asthma.